A Typographic Quest Number Three

PUBLISHED BY WEST VIRGINIA PULP AND PAPER

iblime uidere meretur.Et dum ipſe ſuper gregem uigilat: diuina ſ
er eum gratia largius coruſcat: Subditi uero prælatos ſuos honor
: debent:tum quia xp̄i uices in monaſterio gerunt.ūde & ipſe dom
us paſtoribus ait.Qui uos audit:me audit:& q uos ſpernit:me ſpe
it. Tum ut maledictionem euitent.Nam maledictus eſt: ſicut in d
tronomio ſcribit̄.Qui nō honorat patrem.hinc Canaā & nati eiu
nati natorum eternam incurrerunt maledictionem qm̄ Noe p̄
ui pudenda uidēs riſit: & eum magis ac magis deſpiciens duobus fi
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erioribus preſidentem in monaſterio a nobis tanq̄ patrē haberi:&
bediri:iuſſit prælatorum item maledictio: etiam ſi mali ſint timēd
ſt. Nanq̄ maledictus utiq̄ erat: quē Balaam maledicebat: Tum u
uas euitent confuſiones:Nanq̄ apud eccleſiaſticum ſcriptum eſt:D
ecus filii:pater ſine honore. Tum ut diuinæ obediant ſcripture Sc
tum eſt enim in libro eccleſiaſtici.Sit in medio fratrum rector illo
honore tum ut nature comitis ſint:Entia enim ab ipſo omnium
um opifice iuxta naturam proprietates ſic diſpoſita ſunt:ut in omn
erum genere unum primum ſit.quod metrum & menſura ſit ceter
um:que in eo continentur.& ad illud referantur: [illegible] ei uel r
urali inſtinctu:uel a ſuperiori mota intelli[illegible]tione con
ata: Eo pacto Apes regem fouent:com[illegible]rum i
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uſcunq̄ tuentur & defendunt[illegible] tanq̄ u
erſi principem uniuerſa m[illegible] entia ho[illegible]nificant:ext
unt:& ſuo modo lauda[illegible]:& benedicunt:[illegible]di doctrina
omne creature genus ad deū laudandū b[illegible]ceſſit.q̄ ſi et
ninus bōi p̄lati fuerit a ſubditis nihilominus honorari & eo⁊ iuſ
dipleri dn̄t:iuxta p̄ceptū ſaluatoris ī euāgelio dicentis.ſup cathed
noyſi ſedebāt ſcribe & phariſei q̄cūq̄ dixerit uobis facite ſc̄dm aūt
a eo⁊ nolite facer̄: ſed ſi bōi ſint & rōe ptātis & rōe uirtutis hono
li ſunt & timēdi:acerrimus.n.ultor ē deus: uicarios nūtios: & ſeru

type
to be
read

type
to be
read

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This kind of type would have been considered the most legible to any person who lived in the fifteenth and early sixteenth centuries anywhere in western Europe north of the Alps. In fact, it was only near the end of the sixteenth century that this letter disappeared from English printing, and yielded to the form called roman. Today, it survives only as a quaint type which we use discreetly to set a few words for a greeting card or a formal invitation. Nobody expects the reader to read continuous prose set in this type—are you still with us?—because it is considered to be illegible in the mass. Illegibility does not mean that it cannot be read, but rather that it cannot be read easily; the eye and the mind become fatigued with the effort involved in trying to identify the letters whose forms are unfamiliar to us today. This volume of A Typographic Quest explores the principles of making printing type attractive and easy to read.

West Virginia Pulp & Paper Company

A GOOD CITIZEN OF ANCIENT ROME HAD NO DIFFICULTY IN READING LINES OF CAPITALS ENGRAVED IN STONE

Elegant for inscriptions, but illegible in a mass of text

ðhær ar nœn tw bee defiſhienseſ in the rœman alfabet and inconsistensis in our present meedium, with its tradiſhional iŋgliſh spelliŋ. it has nou becum increesiŋly cleer that theeſe difficultis pwt a reeal obstacl in the wæ ov a ċhield lerniŋ tw reed, and that it has been the meedium, rather than the method or the teecher, which has been at fault.

Many school children start by reading this Initial Teaching Alphabet (from an article by Sir James Pitman in FORMAT)

ɹnʇɔɹnɔʇnɥ ʇ ǫ ɔɐɹʇ

ʃuoɔɹɐ

[oɹoʇʌuo: ɥɔnɐ1 ʃɔɹʇʃ, ɔɐuʞ ɹ ɔɐɹʇʃ, ɓiʃ1-
ıʌ ǫıɹ ɹɔɹʇɔ.

ɹ ʇʃʞɓɹɔ ıʃɔ. ɹ ɔɐɹ'ʃ ɔɔ, ɹ ʃuɔɹɐɹɔ
ʃʇʃuoıʞ ɔɔ, ɔɐɹʃ ɥɔɐ ǫ ʇʃʞɓɹɔ. ıʌ ıʇ
ɔuıʌıɹʇ ɯɔɯ. ǫ ɔɐɹ ɔıɹʃ ɥɔɐ ǫ ʇʃʞɓɹɔ ɯ
ǫɥʇ ɔɐɔʃ, ǫoɔɯıʞ ʃʌ ǫıʇ ɔɔ1 ɥɔıɹ, ʌ ɹıʇ ɹ
ǫıs ɔıɹʇ. ǫɹ ʃıʇʃ ɹɔɹ ɹ ɔɥʌʃɔɹɔɹʇʃ ıʌ.
ǫɹ ɔıɹʃ ıʌ. ǫɹ ɹɔɹʃ ıʌ. ǫɹ ɓɔʃ 1 ıʃʃʇɓɹɔ
ʌ ɹʃ sɔɓɔıʞ ʌ ɹɔʞ ǫ ɔɥɔɹʇ, ɹ ǫʇuʃ
ǫıɹsɹɔ /ʇuɔ. ǫɹ ɔɐʃ ıʌıɹsɔ. ǫɹ ɔıɹʃ ʌ
ɹǫɔ. ɯɔʃ ɓɹʌ ɥɔɐ ǫıɹ ʃʇ. ǫɹ ɔıɹʃ ıɔɹɹɔ
ʌ ɥ ǫsǫ ɹ ɔʃʇ ɹɔɹ ʃʌɯɔ ǫ ɓɥʇ, ıɔʇʃʌʃıʞ
ʌ/ǫ ıɔɹ. ǫʇʃʞɓɹ ɹ ɔʞ ʃɔ, ɔɐɹ /ɹʞ ʌ ɹ ɓɹʌ(ɔ,

Advocates of a truly phonetic alphabet support this one designed under a bequest of G. B. Shaw. Will our grand-children consider this the only legible type? (from ANDROCLES AND THE LION, Penguin, 1962)

What is legibility?

According to the dictionary definition, legibility simply means 'easily read.' This definition not only has the merit of accuracy, it provides an objective toward which all printed communication should be directed. A famous psychologist who has done intensive research in legibility says: 'The legibility of a page of print is the resultant of many different factors—the size, the form, the thickness or boldness of the letters, the width of the line, the spacing between successive words, the texture of the paper, the ink, the presswork, the lighting, and, what is too often overlooked, the intrinsic interest of the subject-matter itself.' To which we might add: the capacity of the reader—his age, education, and environment.

SIR CYRIL BURT: *A Psychological Study of Typography* —Cambridge University Press

But fundamental to legibility is familiarity with the letter-forms used, and the ease with which they group together to form recognizable word-patterns. The reader can be forgiven if he found it a chore to read our introduction set in black letter, or if he found the text at the top of the preceding page heavy going, and the lower block completely beyond comprehension. Each of these bits of text were difficult to read because the word patterns resulting from the individual letter forms were unfamiliar to the reader. But to the child who is taught the Initial Teaching Alphabet (*center, opposite*) the 'strange' forms present no bar to easy reading—in fact, they facilitate it. It may even be that, if the devotees of Shaw's phonetic alphabet *(bottom, opposite)* have their way, all our grandchildren may find this the only legible type! Each of us finds easiest to read that form which is most familiar to us.

SIZE IN POINTS

6 abcdefghijklmnopqrstuvwxyzabcdefghijklmnopqrstuvwxyzabcdefghijklmnopqrstuvwx

7 abcdefghijklmnopqrstuvwxyzabcdefghijklmnopqrstuvwxyzabcdefghijklmnopqr

8 abcdefghijklmnopqrstuvwxyzabcdefghijklmnopqrstuvwxyzabcdefghijkl

9 abcdefghijklmnopqrstuvwxyzabcdefghijklmnopqrstuvwxyzabcdefg

10 abcdefghijklmnopqrstuvwxyzabcdefghijklmnopqrstuvwxyzabcd

11 abcdefghijklmnopqrstuvwxyzabcdefghijklmnopqrstuvwxyza

12 abcdefghijklmnopqrstuvwxyzabcdefghijklmnopqrstuvw

14 abcdefghijklmnopqrstuvwxyzabcdefghijklmnopqr

18 abcdefghijklmnopqrstuvwxyzabcdefg

24 abcdefghijklmnopqrstuvwxyz

30 abcdefghijklmnopqrstu

36 abcdefghijklmnopqr

42 abcdefghijklmno

48 abcdefghijklmn

60 abcdefghijkl

72 abcdefghij

The sizes of type

There is a deep suspicion held by the layman in regard to what he chooses to call the 'fine print' in legal documents and contracts; somewhere in this repulsive mass of unreadable text, he is sure there lurks a snare for the unwary. Yet in most cases, rather than tackle the formidable tasks of reading it and trying to understand legal lingo, he will cross his fingers and sign.

The selection of the proper size of type is of critical importance for easy reading, and this will vary with the audience in respect to age, education, and condition of eyesight. There are no fixed rules, but certainly a book for a child just learning to read should not be set smaller than an 18-point* type, nor should an educated adult of average vision be expected to cope with any great length of text set in less than 8-point.

Considerations of economy will often dictate the size of type to be used, but it is false economy to sacrifice the inviting appearance of readability to the limits of a budget. Better by far to say a little less, and be heard, than say too much and not be heard at all.

However, within the limits of normal reading sizes, the point should not be ignored that text set in a 10-point type will occupy approximately 25% less space than the same text set in a 12-point type. In a document of any length, where the budget is restricted, such an economy may very well be a critical factor.

To generalize, it is safer to err on the side of generosity. A 12-point type, such as the text you are reading now, approaches the ideal size for average adult reading—with extreme ease.

**The point is the unit of type measurement, and is approximately 1/72 of an inch.*

hpx hpx hpx

10-point Garamond

The subsequent development of typography was chiefly the development of technical improvements, more accurately cast types, smoother paper, mechanically perfect presses. Apart from the history of its commercial exploitation, the history of printing has been the history of the abolition of the impres-

10-point Century Expanded

The subsequent development of typography was chiefly the development of technical improvements, more accurately cast types, smoother paper, mechanically perfect presses. Apart from the history of its commercial exploitation, the history of print-

10-pt. News Gothic

The subsequent development of typography was chiefly the development of technical improvements, more accurately cast types, smoother paper, mechanically perfect presses. Apart from the history of its commercial exploitation, the history of printing has been the

10-pt. Caslon

The subsequent development of typography was chiefly the development of technical improvements, more accurately cast types, smoother paper,

The subsequent development of typography was chiefly the development of technical improvements, more accurately

The x-height of type

When reference is made to the size of a type face in points (a point being 1/72 of an inch), the measurement refers to the full dimension of the metal type from the top of the ascending letters (b, d, f, h, k, l) to the bottom of the descending letters (g, j, p, q, y). The remaining fifteen letters occupy the middle portion of the type, the height of the lower-case x, except t which breaks the upper line. This is the x-height of a type, and it will vary with the design of the letter, according to the lengths of the descenders and ascenders.

Obviously, any variation in the height of this main part of the lower-case letters will affect the visual size of the face; two types of different design may be exactly the same point size, yet appear quite different in size, as shown in the 72-point examples of *hpx*.

All of the text examples on the facing page are set in 10-point types; vertically they all occupy the same space, but the difference in their visual size is immediately apparent.

To add to this confusion in the identification of type sizes, some types which began as letters with small x-heights several hundred years ago have now been redesigned by modern founders to increase their visual size by shortening the ascenders and descenders. Thus, in the bottom example on the opposite page, Caslon Old Style retains the x-height of the original eighteenth century face, while Caslon 137 is a recent version which minimizes the descenders particularly in order to make the type appear larger without taking up more space vertically. So when determining what size of type to use, it is also important to consider what size of *what type*.

News Gothic Condensed	Typography is an art
Garamond	Typography is an art
Caslon Old Style	Typography is an art
Palatino	Typography is an art
Optima	Typography is an art
Torino	Typography is an art
Bodoni Medium	Typography is an art
Baskerville	Typography is an art
Plantin	Typography is an art
News Gothic Medium	Typography is an art
Times New Roman	Typography is an art
Century Schoolbook	Typography is an art
Stymie Bold	**Typography is an art**
Craw Clarendon	**Typography is an art**
Ultra Bodoni	**Typography is an art**
Eurostile	**Typography is an art**
Craw Modern	Typography is an ar

The set of type 9

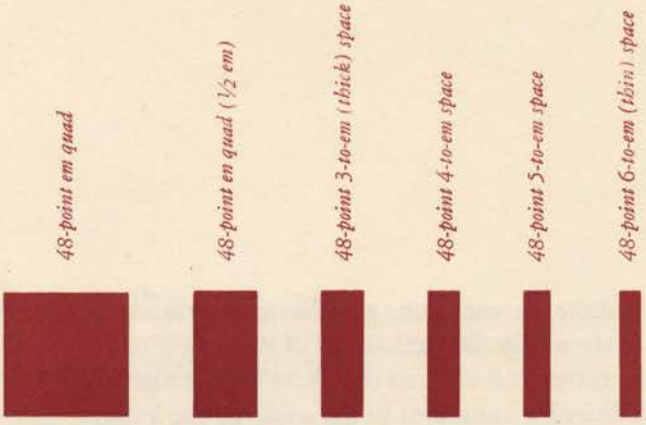
If there are variations possible in the visual size of the letter within the limitations of the height of the metal face, then it is obvious that there are even greater possibilities for variations in the *width* of the letters.

It was one of the most ingenious aspects of the invention which we credit to Gutenberg that he devised a mold which, while maintaining uniformity of the height of the letter, permitted flexibility in the width. In this way, a narrow letter like *i* and a wide letter like *m* could be cast in widths suited to their structure without changing the size of the body. This width is the 'set' of a letter.

To begin with, a type with a large x-height will inevitably be wider than a similar type with a small x-height, if the pleasing standard proportions of letterforms are to be maintained.

Beyond this, however, is the control exercised by the designer of a type over the ratio between the height and the width of his letter as a design factor—a narrow type for economy of space, and a wider, round type for greater openness of the characters. These are simply subtle departures from the normal proportions, almost undetected by the layman as he reads, but having considerable effect on the amount of space taken up by any substantial amount of text matter.

Finally, consideration must be given to certain types whose proportions are deliberately distorted to create the condensed and expanded faces. It is certainly undesirable to use these types to set any continuous text; the compression or expansion of the word pattern does not conform to what is familiar, and reading is slowed.



Improper word spacing

Another matter, closely connected with even spacing and complementary to it, is the question of close spacing. We have become accustomed to wide gaps between words, not so much because wide spacing makes for legibility as because the Procrustean Bed called the Compositor's Stick has made wide spacing

Correct word spacing

the easiest way out of the difficulty caused by the tyrannical insistence upon equal length of lines. But reasonably close spacing is in itself a desirable thing. Provided that words are really distinct from one another, they should be set as close as possible. Distinctness assumed, closeness makes for that continuous flow which is essential to pleasant reading, and pleas-

A line of 8pt. Garamond is too difficult to read with only a thin space

Its legibility is greatly improved when the words are separated

A narrow type needs much less space between the words

A wide type needs much more space be

A type with a small x-height requires only a thin space

A type with a large x-height needs a thick space

The|space|in|the|line

Assuming the form of the letter is familiar and the size of the type is comfortable to the eye, the next procedure to make text legible is to assure that the reading process—surveying the line of type with a horizontal movement of the eye—is made as easy as possible.

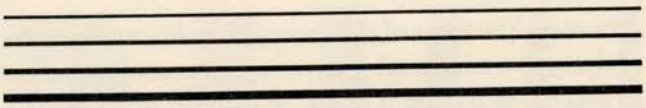
This involves two requirements that are in conflict. On the one hand, the line must be closely knit to encourage the horizontal scanning by the eye, and on the other, the separation between the words must be sufficient to isolate each word pattern. This conflict can only be resolved by a compromise.

The spacing of a line of type is done by the insertion of metal blanks, cast lower than type so that they will not print. They are identified by the fraction of an *em quad* they occupy, an em quad being a square of the size of type being used.

Where type is to be set with all lines of even length, slight variations in the sizes of the spaces will be used to fit in a long line or to drive out a short one. These variations are inevitable, but they should take place around a consistent average. This average will depend on three factors: the size of the type, the x-height of the type, and set of the type.

The space, in short, should be in proportion to the letter. A large type will require less space than a small one; a wide type will need more space than a narrow one; a type with a small x-height should have less than a larger version. The examples opposite should serve to demonstrate these variations; but if a rule of thumb is useful, the width of the lower-case *c* of the type you are using is usually a good guide.

1-point lead
1½-point lead
2-point lead
3-point lead



10 pt. Garamond set solid (no leading)

It may be said of all printers that their job is to reproduce on paper the exact face of the letters which they have set into pages. This face is of a definite, constant and measurable size and shape; with any one press and any one paper there is a right and exact quan-

10 pt. Garamond leaded 1 pt.

It may be said of all printers that their job is to reproduce on paper the exact face of the letters which they have set into pages. This face is of a definite, constant and measurable size and shape; with any one press and any one paper there is a right and exact quantity of ink and pressure necessary to re-

10 pt. Garamond leaded 1½ pts.

It may be said of all printers that their job is to reproduce on paper the exact face of the letters which they have set into pages. This face is of a definite, constant and measurable size and shape; with any one press and any one paper there is a right and exact quantity of ink and pressure necessary to re-

10 pt. Garamond leaded 2 pts.

It may be said of all printers that their job is to reproduce on paper the exact face of the letters which they have set into pages. This face is of a definite, constant and measurable size and shape; with any one press and any one paper there is a right and exact quantity of ink and pressure necessary to re-

10 pt. Garamond leaded 3 pts.

It may be said of all printers that their job is to reproduce on paper the exact face of the letters which they have set into pages. This face is of a definite, constant and measurable size and shape; with any one press and any one paper there is a right and exact quantity of ink and pressure necessary to re-

The space between the lines

If spacing between the words is critical to the easy flow of the eye along a line of type, then the spacing between the lines must also be considered an important factor, for this thin white strip is a horizontal guideline for the eye.

Our first example on the opposite page shows the kind of setting which is most illegible, where the spaces between the words exceed the space between the lines; visually, it resembles a shell-pocked battlefield, and it is as awkward for the eye to traverse as rough ground is for the feet. The revised setting below tightens up the word-spacing and opens up the line-spacing, and the eye is provided with a smooth 'highway' of text.

Spacing between lines is accomplished by 'leading,' the insertion of thin strips of metal between the lines of type. These strips come in thicknesses of 1, 1½, 2 and 3 points; often this additional material can be cast with the type itself, increasing the body size while retaining the original type size.

Most text settings are improved by the addition of a discreet amount of leading, but in certain cases, leading becomes essential:

1/ Where the x-height is large, and the resulting channel of white is reduced.

2/ Where the design of the letter itself obstructs the horizontal flow. Modern types like Bodoni, with their vertical emphasis, have their readability improved by leading. Sans serifs, because they lack that horizontal terminal to the main strokes which contributes to horizontal cohesion, *must* be leaded to improve legibility.

3/ Where the line is excessively long.

How long should a line of typ

The column on the right shows how the compositor must resort to uneven spacing when too large a type is set on too narrow a measure.

Excessively long lines of small type are as difficult and tiresome to read as they look, and the eye is unable to come back to the beginning of a line unerringly.

There are, then, two typographies, as there are two worlds: and, apart from God or profits, the test of one is mechanical perfection, and of the other, sanctity—the commercial article at its best is simply physically serviceable and, per accidens, beautiful in its efficiency; the work of art at its best is beautiful in its very substance and, per accidens, as serviceable as an article of commerce. The typography of Industrialism, when it is not deliberately diabolical and designed to deceive, will be plain; and in spite of the wealth of its resources—a thousand varieties of inks, papers, presses and mechanical processes for the reproduction of the designs of tame designers—it will be free from exuberance and fancy. Every sort of ornament will be omitted; for printers' flowers will not spring in such a soil, and fancy lettering

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Stand at a distance from a building, and a sign a hundred feet long can be read without a twitch of an eyeball. But a newspaper headline held at arm's length not only requires that the eye move, even the head may have to swivel slightly.

The reading process is one of identifying the patterns created by words and phrases in type. The eye moves along the line, relaying these composite visual forms to the brain, where the abstract forms are decoded into meanings.

It becomes obvious that for continuous text, the proper length of line is that which enables the eye to grasp the units of pattern in the line with a minimum of eye movement; the muscles of the eye share with other parts of the body the reaction of fatigue from over-exertion.

Experience has resulted in general agreement that eight to ten words constitutes a basically readable line of type; this represents a line of roughly two alphabets or 52 characters in length. When a line goes longer than this, leading must be introduced between the lines to facilitate the eye's identification of the letter forms without confusion with the adjoining lines.

Lines which are shorter than this standard will obviously involve even less eye-strain; but they present a technical problem to the typesetter, for as the number of words diminishes, the fewer are the spaces in which he can distribute the necessary space to fill out his line. Where there are long words that are impossible to break (like 'stretch'), this often results in the uneven spacing that impedes legibility.

Whereas the medieval scribe obtained his neat square page by the use of a large number of contractions (by this means words were made on the average very much shorter; and obviously short words are more easily fitted in than long ones) and by frank use of line-fillings—he boldly filled up a short line with an ornamental flourish or illuminated device—the modern printer obtains his square page only by the sacrifice of one of the most important constituents of readableness, even spacing between words.

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Justifying the unjustified

Lines of even length are achieved, as was mentioned on the previous page, by varying the size of the spaces used between words—shortening long lines by using thin spaces and stretching the short lines with thicker spaces. This equalization of lines is called justification.

The longer the line and the greater the number of words over which these inequalities can be divided, the less objectionable it becomes. But in relatively narrow settings, this variation in word-spacing can become unpleasant to look at and difficult to read.

In these circumstances, the printer is justified in leaving the right-hand edge of the page unjustified. Speaking of text, ERIC GILL said that it is 'primarily a thing to be read, and the merely neat appearance of a page of type of which all the lines are equal in length is a thing of no very great value in itself; it partakes too much of the ideas of those who regard books as things to be looked at rather than read.'

ERIC GILL:
An Essay on Typography
Faber & Faber

Since uniform word-spacing improves legibility, and the even right-hand edge does nothing to improve it, there would seem to be ample justification for the free edge.

The same quotation is set in two ways on the opposite page. The first employs a normal measure, adequately leaded and properly spaced. The second setting goes to the other extreme by using a very narrow setting, with standard word-spacing and the right-hand edge left free, and the reading pattern changed from a horizontal to a vertical direction. Which looks more readable? Which is actually easier to read?

This is just a bit of typographical horseplay, using type descriptively, but not intended to indicate type preferences of various occupations!

RICH MAN

poor man

Beggar man

thief

DOCTOR

Lawyer

INDIAN CHIEF

TINKER

Tailor

soldiiiiiiiiiiiiier

SAILOR

Tailor the type to the reader

19

One of the first things involved in the selection of an appropriate type is to find out the type preference of the ultimate reader. This has nothing to do with the old superstition that dainty, graceful types should be used for women, and for men, rugged bold types. Many ads with masculine appeal use formal scripts, many ads appealing to delicate feminine taste employ sans serif types.

Selection of type for text should rather be based on the general type preferences of readers by groups. While these preferences have not yet been adequately researched on a scientific basis, certain general outlines are apparent in studies made to date. Tests made by SIR CYRIL BURT indicate that, of two groups studied, literary tastes show strong preference for the Old Style types, while scientific readers find Transitional types more legible. (Class publications reflect this preference: compare the *Scientific American* and the *Atlantic Monthly*.) Similarly, various professional groups have their preferences, and it might certainly be assumed that technical people would be the most receptive to the sans serif types of any of these groups.

That these preferences are largely a result of familiarity and custom is indicated by BURT when he says that 'almost everyone reads most easily matter set up in the style and size to which he has become habituated.' The text books read as a student, the journals read as a professional, these mould type preferences.

The point is that type selection should not be based on the aesthetic preference or current enthusiasm of the designer, but on what is legible to the reader.

TYPESCRIPT
INTO PRINT

Old printing hands and experienced 'mark-up' men can cock an eye at a bit of typewritten manuscript and tell you within a hair-space how much space it will take in any size type you mention.

For lesser mortals, here is a simplified way to 'cast off' copy to determine what area it will occupy in type:

a Find out how many characters in your script by the simple expedient of measuring. Typewriter types have either ten or twelve characters to the inch; if you want a dead accurate count, measure off each line and total each paragraph; for a rough count, find the number of characters in an average line, and multiply by the total number of lines.

b Select the size and face of type you want and procure a specimen of the lower-case alphabet (body sizes of 56 types are shown in the following pages; if the one you want isn't there, check your type specimen books, or get your typesetter to set an alphabet for you).

c Using the scale on the edge of the Alphacast, included with this edition of A TYPOGRAPHIC QUEST, measure the alphabet*; follow the line nearest the end of the *z* down until it crosses the horizontal lines of figures.

d Choose the pica width to which you wish to set your type in the left hand column; lay a ruler under this line. In the corner where your ruler and the vertical line cross is a figure that represents *the number of characters* of type *in a line of that length.*

e Divide this figure into the total number of characters in your manuscript (for a rough estimate) or in each

**If the alphabet exceeds the length of the scale, measure one-half the alphabet and halve the answer found in* d.

paragraph (for accuracy), and the answer will give you *the number of lines of type* you will have.

f To find the length of your typescript in type, take the body size of your chosen type in points, add the thickness in points of any leading you propose to do, and multiply this by the number of lines you have.

g This gives your total length in points. To transpose this to picas, divide by 12; to transpose it to inches, divide by 72.

To put the whole thing in a formula, using the key letters by which we have identified each step as representing the answer to that step, this is the procedure:

$$\frac{a}{d} = e \qquad e \times f = \text{length of text in points}$$

$$\frac{e \times f}{12} = \text{length in picas}$$

$$\frac{e \times f}{72} = \text{length of text in inches}$$

If you're in luck, your type fits your expectations. But if your type is running too long, you can do one of three things:

reduce or eliminate the leading
increase the width of your setting
reduce the size of your type

If your copy is too short, the reverse procedures, increasing leading or size or decreasing the width, will make your type go further. But in each case, you should follow the procedure least likely to adversely affect the legibility of your text.

Linotype 22

GRANJON

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

JANSON

abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

BASKERVILLE

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

BODONI

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

POSTER BODONI

abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

Linotype 23

CASLON OLD FACE

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

MONTICELLO

abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

BODONI BOOK

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

CENTURY EXPANDED

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

GARAMOND

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

Linotype 24

CALEDONIA

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

FAIRFIELD MEDIUM

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

[1]MELIOR

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12

PRIMER

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

SPARTAN MEDIUM

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

[1]*manufactured in Germany to European standards*

Linotype 25

TIMES ROMAN

6 abcdefghijklmnopqrstuvwxyz
8 abcdefghijklmnopqrstuvwxyz
10 abcdefghijklmnopqrstuvwxyz
12 abcdefghijklmnopqrstuvwxyz
14 abcdefghijklmnopqrstuvwxyz

ELECTRA

6 abcdefghijklmnopqrstuvwxyz
8 abcdefghijklmnopqrstuvwxyz
10 abcdefghijklmnopqrstuvwxyz
12 abcdefghijklmnopqrstuvwxyz
14 abcdefghijklmnopqrstuvwxyz

[1]OPTIMA

6 abcdefghijklmnopqrstuvwxyz
8 abcdefghijklmnopqrstuvwxyz
10 abcdefghijklmnopqrstuvwxyz
12 abcdefghijklmnopqrstuvwxyz

TRADE GOTHIC

6 abcdefghijklmnopqrstuvwxyz
8 abcdefghijklmnopqrstuvwxyz
10 abcdefghijklmnopqrstuvwxyz
12 abcdefghijklmnopqrstuvwxyz
14 abcdefghijklmnopqrstuvwxyz

[2]HELVETICA

6
8
10 abcdefghijklmnopqrstuvwxyz
12 abcdefghijklmnopqrstuvwxyz
14 abcdefghijklmnopqrstuvwxyz
abcdefghijklmnopqrstuvwxyz

[1] *manufactured in Germany to European standards*
[2] *series now in American manufacture*

Ludlow 26

RECORD GOTHIC MEDIUM-EXTENDED

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

RECORD GOTHIC BOLD MEDIUM-EXTENDED

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

RECORD GOTHIC HEAVY MEDIUM-EXTENDED

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

RECORD GOTHIC EXTENDED

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

RECORD GOTHIC BOLD

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

RECORD GOTHIC BOLD EXTENDED

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

GARAMOND

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

EUSEBIUS

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

BODONI TRUEFACE

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

PLANTIN

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12

TIMES NEW ROMAN

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

RECORD GOTHIC CONDENSED

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

Monotype 28

MONOTYPE BASKERVILLE

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 7
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE BODONI BOOK

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 7
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE BULMER

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 7
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE CENTURY SCHOOLBOOK

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 7
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE CHELTENHAM WIDE

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE DEEPDENE

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE AMERICAN GARAMOND

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 7
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE JANSON

abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE NEWS GOTHIC

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 7
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

Monotype 30

MONOTYPE SPECTRUM

abcdefghijklmnopqrstuvwxyz 6D
abcdefghijklmnopqrstuvwxyz 8D
abcdefghijklmnopqrstuvwxyz 10D
abcdefghijklmnopqrstuvwxyz 12D

MONOTYPE UNIVERS MEDIUM

abcdefghijklmnopqrstuvwxyz 6D
abcdefghijklmnopqrstuvwxyz 8D
abcdefghijklmnopqrstuvwxyz 9D
abcdefghijklmnopqrstuvwxyz 10D
abcdefghijklmnopqrstuvwxyz 12D

MONOTYPE WALBAUM

abcdefghijklmnopqrstuvwxyz 6D
abcdefghijklmnopqrstuvwxyz 8D
abcdefghijklmnopqrstuvwxyz 9D
abcdefghijklmnopqrstuvwxyz 10D
abcdefghijklmnopqrstuvwxyz 11D
abcdefghijklmnopqrstuvwxyz 12D

MONOTYPE PLANTIN

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 7
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE TIMES NEW ROMAN

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 7
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

D: Didot size; must be cast on body one point larger for English-American point systems.

MONOTYPE BELL

abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE EHRHARDT

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE BEMBO

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE PERPETUA

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

MONOTYPE EMERSON

abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

Intertype 32

CAIRO MEDIUM

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

SCOTCH ROMAN

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12

KENNTONIAN

abcdefghijklmnopqrstuvwxyz 6
abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

WAVERLEY

abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 9
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

WEISS ROMAN

abcdefghijklmnopqrstuvwxyz 8
abcdefghijklmnopqrstuvwxyz 10
abcdefghijklmnopqrstuvwxyz 11
abcdefghijklmnopqrstuvwxyz 12
abcdefghijklmnopqrstuvwxyz 14

the types in this book

The page of Latin on the front cover is a reproduction of a page printed by George Herolt of Rome in 1481. Palatino is used for the title. Page 1 is set in Goudy Text. The Roman capitals at the top of page 2 are Perpetua Titling; the heading and text on page 3, and on all subsequent pages, are Garamond, with side notes and captions in Garamond italic. The alphabets on page 4 are set in Garamond. On page 6, the letters *hpx* are Garamond, Century Expanded and News Gothic, in that order. On page 18, the types used are: Ransom Shaded Initials, Lightline Gothic, Caslon Antique, Hellenic Wide, Scotch Roman, Cloister Black, Bifur, Octagon (a nineteenth century type), Bank Script, Alternate Gothic No. 1, and Engravers Bold with a Troyer anchor ornament. The heading on page 20 is Typewriter Bulletin and Garamond. The formulas in colour on page 21 are set in News Gothic Bold. All types shown on the specimen pages are identified, and thanks for their co-operation in supplying specimen lines are extended to the following:
Ludlow Typograph Company
Mergenthaler Linotype Company
Lanston Monotype Company
Monotype Corporation Limited (ENG.)
Intertype Company
The author acknowledges that the texts used for the various specimens were excerpted from *An Essay on Typography* by ERIC GILL, *published by* Faber & Faber.

written and designed by
CARL DAIR

Westvaco fine papers

The cover of this volume is lithographed on CLEAR SPRING Index, 135#; the text is printed by letterpress on CLEAR SPRING BOOK Offset, E. F., Natural shade, 80#– both 25 x 38 basis.

LETTERPRESS COATED
CORONATION Print–Gloss
STERLING Print–Gloss
STERLING Print–Gloss C1S
STERLING Washproof C1S
STERLING Waxbar C1S
STERLING Foodwrap C1S
VELVO Text
VELVO Text–Dull
VELVO Print–Gloss
VELVO Print–Dull

LITHOGRAPHIC COATED
CORONATION Litho–Gloss
CORONATION Litho–Dull
STERLING Litho–Gloss
STERLING Litho C1S
VELVO Litho–Gloss
VELVO Litho–Dull

ROTOGRAVURE COATED
BLENDROTO Gloss

BRISTOLS
CLEAR SPRING Post Card
CLEAR SPRING Index

BUSINESS PAPERS
PINNACLE Bond
PINNACLE Multipress
CLEAR SPRING Bond, Mimeo, Duplicator & Ledger

LETTERPRESS UNCOATED
CLEAR SPRING English Finish
CLEAR SPRING M.F.
CLEAR SPRING Text
CLEAR SPRING Antique
CLEAR SPRING Hibulk
CLEAR SPRING Plate
CLEAR SPRING Workbook Text
CLEAR SPRING M.F. Lining

LITHOGRAPHIC UNCOATED
INSPIRATION Text & Cover
PINNACLE Opaque Offset
PINNACLE Offset
CLEAR SPRING Offset
CLEAR SPRING Litho-Plate
CLEAR SPRING M.F. Litho
CLEAR SPRING Music
CLEAR SPRING Map Paper
VAC CUP BAC Poster

WEB OFFSET
STERLING Webgloss
VELVO Webgloss
BLENDWEB Gloss
BLENDWEB Opaque
CLEAR SPRING Weboffset

West Virginia Pulp and Paper